

WHAT IS CLAIMED IS:

1. A movable barrier operator comprising:
an electric motor;
a switch operatively coupled to the electric motor for commanding the electric motor to move;
a switch for commanding a learn mode;
a transmission connected to the electric motor to be driven thereby and for connection to a movable barrier to be moved;

means for storing a force set point; and
means responsive to the learn mode for detecting the force applied to the movable barrier and for changing the force set point when the force needed to move the barrier to an open or closed position is greater than the force set point.

2. A movable barrier operator comprising:
an electric motor;
a switch operatively coupled to the electric motor for commanding the electric motor to move;
a transmission connected to the electric motor to be driven thereby and for connection to a movable barrier to be moved;

means for detecting when the movable barrier has moved to a stored digital end of travel position and for halting the barrier in response to the stored digital end of travel position having been exceeded; and

a barrier position signal generator for producing a barrier position signal for normalizing the detector means;

means for changing the stored digital end of travel position when, after halting, the motor is commanded to move by the switch.

3. A movable barrier operator comprising:
an electric motor;

a switch operatively coupled to the electric motor for commanding the electric motor to move;

a transmission connected to the electric motor to be driven thereby and for connection to a movable barrier to be moved;

an ambient temperature detector positioned near the electric motor;

means for storing a difference between the integral of the motor speed with respect to time when the motor is energized less the time the motor is not energized as adjusted for by the ambient temperature; and

means for anticipating the contribution to the time integral during the next commanded operation of the motor and inhibiting the motor if the predicted result exceeds a set point.

4. A movable barrier operator comprising:
an electric motor;

a transmission connected to the electric motor to be driven thereby and for connection to a movable barrier to be moved;

a multiplexing switch having a plurality of switches and providing a different signal for each switch of said plurality that has been closed; and

a controller having a port connected to the multiplexing switch and to the electric motor to control the operation of the electric motor in response to closure of one of the switches of the plurality of switches.

5. A movable barrier operator according to claim 4 wherein the controller is adapted to receive a serial digital communication through the port connected to the multiplexing switch.

2025 RELEASE UNDER E.O. 14176